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Department of Psychology

An Integrative Social Support Model for
Fibromyalgia Patients: A Treatment Manual


by

Eugene A. Moynier, M.A.

A Doctoral Project submitted in partial satisfaction of
the requirements for the degree of
Doctor of Psychology in Psychology

September 2009

Each person whose signature appears below certifies that this doctoral project in his/her opinion is adequate, in scope and quality, as a project for the degree of Doctor of Psychology.



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ABBREVIATIONS

BDI	Beck Depression Inventory
CBT	Cognitive Behavior Therapy
CPCI	Chronic Pain Coping Inventory
CSQ	Coping Strategies Questionnaire
FMS	Fibromyalgia
PCI	Pain Coping Inventory
PS	Pain Scale
PTSD	Post Traumatic Stress Disorder
ROM	Range of Movement

ABSTRACT OF THE DOCTORAL PROJECT

An Integrative Social Support Model for Fibromyalgia Patients: A Treatment Manual

by

Eugene A. Moynier

Doctor of Psychology, Department of Psychology
Loma Linda University, September 2009
Dr. Kendal Boyd, Chairperson

This study sought to investigate the current literature on Fibromyalgia and determine which interventions have been shown effective in its treatment. Furthermore, this study sought to develop a manual for the treatment of fibromyalgia using the data obtained from the literature review. The interventions that were found to be effective include the following domains: exercise, family therapy, dual-diagnosis, occupational therapy, sleep hygiene, stress management, coping skills, cognitive behavioral therapy, traumatic stress, and treatment adherence. The literature supported a psychoeducational approach within a socially supportive environment as an effective strategy to convey these treatment interventions as well as encourage treatment adherence. The treatment manual consists of ten modules: Overview of Symptoms and Treatments, Exercise, Dual Diagnosis, Stress and Relaxation, Energy Reallocation, Managing Emotions, Sleep Hygiene, Managing Relationships, Emotional Trauma, and Aftercare Planning.

CHAPTER ONE

Introduction

Fibromyalgia Syndrome (FMS) is characterized by a history of chronic widespread pain and the presence of at least 11 out of 18 tender point sites (Wolfe, Ross, Anderson et al., 1995). Pain is determined to be widespread when it occurs above and below the waist, as well as on both sides of the body. In addition, axial skeletal pain must be present, which typically entails either spinal, sternum, or rib pain. Approximately 20-25% of the population meets these criteria for chronic widespread pain (Wolfe, Ross, Anderson & Russell, 1995). However, a diagnosis of FMS is given when an individual also exhibits pain at the tender point sites. These 18 sites cluster bilaterally around the neck, shoulder, elbow, chest, hip, and knee regions (Wolfe, Ross, Anderson et al., 1995). To meet criteria for FMS, a patient must perceive 11 tender point sites as painful when 4 kg of pressure is applied. When adding this stipulation, approximately 0.5 – 4% of the population meets criteria for FMS in industrialized countries (Wolfe, Ross, Anderson & Russell, 1995). Accordingly, the presence of at least 11/18 perceptively painful tender point sites is an important defining and differential condition for FMS. A diagnosis of FMS also requires the ruling out of other medically explained disorders that would account for the symptoms (Wolfe, Ross, Anderson et al., 1995).

There are considerable social and economic repercussions of FMS. The average healthcare cost for an individual diagnosed with FMS ranges from \$2,274 to \$4,417 (Oliver et al., 2001 & Wolfe et al., 1997). This equates to an estimated \$20 billion in healthcare services in the United States. Furthermore, FMS contributes to an

indeterminable amount of lost wages and productivity in the workplace. Consequently, the need for a comprehensive and effective treatment program is apparent.

FMS patients often exhibit a wide constellation of symptoms. Commonly reported symptoms are muscular pain, fatigue, insomnia, joint pains, headaches, restless legs, numbness, impaired memory, leg cramps, impaired concentration, nervousness, and depression (Wolfe et al., 1990). These symptoms range from generalized medical complaints to psychological distress. Tot et al. (2004) found that FMS patients report a higher amount of depressive symptoms than those determined to be medically healthy. In addition, many FMS patients endure a high degree of interpersonal distress and decreased positive affect (Zautra et al., 2005). Malt et al. (2000) determined that roughly 27% of FMS patients have a history panic disorder, which is significantly higher than that of the general population. For females, there is often a simultaneous onset of FMS, menopause, and depression (Clayton, 2004). In addition, women tend to experience pain differently than men do. Women are more likely to report a variety of recurrent pains than men, and they may tend to perceive pain as more severe, frequent, and chronic (Unruh, 1996). Thieme, Turk, and Flor (2004) found that 74.8% of those diagnosed with FMS have a comorbid Axis I diagnosis, and 8.7% have a comorbid axis II diagnosis. The authors concluded that FMS patients tend to be a heterogeneous group with varying symptomology (2004).

Given the wide variety of reported symptoms, FMS patients tend to be a diverse group. Since FMS patients only need to share diagnosing criteria, they often have varying composites of symptomology that can range across numerous medical and psychological difficulties. Accordingly, an integrated treatment that would address a wide array of

commonly reported problem areas might be effective for a larger sample of FMS patients. Schwartz (1982) discussed the inadequacy of a single cause-effect conceptualization for disease. It is not appropriate to attribute a single cause to a particular syndrome; rather, many factors contribute to a syndrome's presentation. Engle (1977 & 1980) noted the importance of attending to the biological, psychological, and social aspects of diagnoses. Many diseases are not limited to only a biological dimension. Rather, the etiological composition of a disease tends to be multifaceted. Consequently, the treatment approach should use a multidisciplinary design that treats the biological, psychological, and social aspects of FMS. An integrative treatment program would be able to address these components within FMS. One integrative program that utilized a multidisciplinary approach for the treatment of FMS was shown to be more effective than standard medical care (Lemstra & Olszynski, 2005). Furthermore, another program that integrated educational and psychological components was found to be more successful than autogenic training alone (Keel et al., 1998). In another study, the combination of education, relaxation techniques, exercise sessions, and counseling had a synergistic effect in the treatment of FMS (Mengshoel, 2001).

Although an integrative approach appears to be more effective than addressing a single component, the most advantageous integrative design has not been determined. A review of common difficulties associated with FMS and their respective treatments will help to derive a comprehensive model for its treatment. The purpose of this study is to develop a multi-dimensional treatment manual for FMS.

Treatment Domains

Social Support

Those diagnosed with FMS have symptoms that are physically and socially debilitating. Furthermore, there is no widely accepted medical explanation for those symptoms. As a result, many sufferers of FMS often experience isolation and a lack of validation (Franks & Oliver, 2004). Zautra et al. (2005) found that FMS patients tend to have lower levels of extraversion than those who have osteoarthritis. A combination of isolation, lack of validation, and low extraversion may contribute to psychological distress and social alienation. One study linked larger social support networks with increases in self-efficacy for managing pain and other symptoms (Franks & Oliver, 2004). FMS patients who reported having a high quality social support network were associated with lower levels of helplessness, mood disturbance, depression, and higher levels of self-efficacy for function, symptom management, and psychological well-being. Therefore, the quality of FMS patients' social support networks provided greater benefit than the size of their respective networks (2004). The advantage of a strong social support network may also generalize to mitigating aversive physical symptoms. Rudnicki (2001) determined that social support and perceived support are associated with the perception and experience of pain. Those who perceive themselves as having an elevated level of support also reported less experiences of pain (2001). Furthermore, the disclosure of emotional expression was linked with sleep quality, perceived physical disability, and perceived disease impact (Gillis, 2002). In another study, participants were either instructed to write about life stress or a neutral control topic. Three months after the task, those who wrote about life stress demonstrated significantly higher gains in sleep quality.

Moreover, those who provided emotional disclosure had less debilitating views toward their physical disabilities and toward the impact of their disease (2002).

A number of researchers have examined the effects of a social support model on an individual's adherence to a treatment regimen. Two group factors that have been identified in the literature are group cohesion and social support. In terms of cohesion, Spink and Carron (1992) found that a greater sense of cohesion in a group of exercisers was associated with increased adherence behavior. Regarding social support, it has been demonstrated that an individual is more likely to follow through with prescribed interventions in the context of a social support model than on an individual basis (Krause et al., 1993; O'Brian & Cousins, 1995; Oka et al., 1995). In one study, Courneya and McAuley (1995) found that individuals' adherence to an exercise routine was associated to their perception of the quality of social support. More specifically, the more an individual perceived cohesion within their social support group, the more likely she would comply with a prescribed exercise routine (1995).

To summarize, FMS patients may tend to experience isolation and a lack of validation (Franks & Oliver, 2004). The quality of social support for FMS patients has shown to help mitigate psychological disturbance and increase self-efficacy (2004). Those who perceive themselves as having a strong social support system tend to report fewer experiences of pain (Rudnicki, 2001). Moreover, the disclosure of life stress tends to improve sleep quality and alleviate perceptions of physical disability (Gillis, 2002). Considering these advantages, increasing the quality of social support networks and facilitating the expression of life stress are important components for treating FMS patients. FMS patients tend to benefit from enhanced social support networks and

emotional disclosure. Accordingly, a treatment program that provides the opportunity for FMS patients to establish bonds and facilitate emotional expression would decrease aversive symptomology and improve their self-efficacy.

Education

Education was demonstrated to be an important component in the treatment of fibromyalgia (Burckhardt, 2005). Patients suffering from FMS can often feel discouraged and helpless by their condition (Thieme, Turk, & Flor, 2004). Pervasive physical discomfort coupled with no medical explanation may contribute to FMS patients feeling overwhelmed and powerless. Disseminating information may facilitate an increase in self-efficacy and enhance skills in the management of their disease. FMS sufferers may tend to focus on aspects of their illness that they cannot control, such as seeking a medical explanation. However, FMS patients often benefit from information that focuses on managing their condition rather than seeking an elixir (Burckhardt, 2005). Educational topics may entail information on physical therapy, occupational therapy, nutrition, family therapy, sleep hygiene, and dealing with previous traumatic events. In addition, psychological information also tends to increase self-efficacy, including conveying relaxation skills, coping strategies, and orienting to a cognitive-behavioral approach (Hassett, 2000). Computer based information has also been shown to benefit those with FMS (Hochlehnert et al., 2006). An effective treatment model would incorporate the education FMS patients about the nature of their condition, address various treatment options, enhance management skills, and provide coping strategies. Thorne et al. (2004) found that the communication between FMS patients and their respective physicians have a significant impact in the management of their condition. Accordingly, endowing clients

with skills to effectively communicate with their physician would also increase their ability to manage their illness.

Exercise

There is considerable support for the ability of exercise to positively influence affective states (Arent, Landers, & Etnier, 2000; Landers & Petruzzello, 1994; Thayer, 1987). Studies have generally shown that exercise increases states of positive affect or energetic arousal (Gauvin & Rejeski, 1993; Lutz, Lochbaum, & Turnbow, 2003; Thayer, 1987), and reduces anxiety, tension, and negative affect (Breus & O'Connor, 1998; Kennedy & Newton, 1997; Petruzzello, Jones, & Tate, 1997; Thayer, 1987). Furthermore, research has demonstrated that exercise can be equally effective in the treatment of depression when compared with other treatment modalities such as selective-serotonin reuptake inhibitors (Dunn et al., 2005).

Due to the fact that FMS is characterized by chronic widespread pain and the presence of at least 11/18 tender points, initiating an exercise program is difficult. Only 20.5% of patients with FMS report that they regularly engage in light to moderate exercise (United States, 1990-1991). However, patients with FMS tend to obtain significant physical and psychological benefits through a regular exercise routine (Gowans et al., 2001). However, physical exertion often exacerbates muscular pain in FMS patients, thus decreasing the likelihood of starting an exercise routine. Alternatively, warm water pool exercises have also demonstrated physical and psychological gains while increasing the likelihood FMS patients would initiate a routine (Mannerkorpi et al., 2000). Warm water pool exercise is often less aversive than other exercise programs because the tepid water tends to assuage muscular and joint pain. Due to the varying

severity and symptomology across FMS patients, tailored exercise routines designed to match their individual thresholds are more advantageous than a single standardized approach. Nijs and Van Parijs (2004) found pool exercise to be beneficial when adjusted for each patient's individual pain/fatigue threshold. Therefore, each FMS patient would identify his or her own individual exercise intensity according to their respective level of pain and rate of fatigue.

Oliver and Cronan (2002) found that a lack of exercise self-efficacy is a key barrier that prevents FMS patients from engaging in an exercise routine. As a result, it may be beneficial to address the patients' perceived barriers that serve to reduce their self-efficacy toward exercise. Perceived barriers may include the anticipated pain from exercise and a lack of energy to commence exercise (Oliver & Cronan, 2005).

Considering the physical and psychological benefits of regular physical activity, FMS patients would benefit from a treatment program that incorporates individualized exercise routines that match their respective pain/fatigue thresholds. Furthermore, a treatment program that attempts to disarm perceived barriers may increase participation and adherence to an exercise routine.

Occupational Therapy

Employment is an important component for most individuals in industrialized society, regardless of a FMS diagnosis. However, those diagnosed with FMS may often endure additional occupational stressors due to chronic pain, fatigue, and concentration difficulties. In a study conducted by Gaston-Johansson et al. (1990), FMS patients reported significantly more negative feelings about their employment than those diagnosed with rheumatoid arthritis. Consequently, FMS sufferers may tend to have more

occupational difficulties than many other chronic pain patients do. Unfortunately, there has not been sufficient research on the effectiveness of various occupational techniques. In a study conducted in the United Kingdom, commonly used methods to address occupational difficulties for FMS patients include energy conservation techniques and an endurance-based exercise program (Sim & Adams, 2003). Improving energy conservation increases the productivity and efficiency of employees, especially employees who have a limited capacity to exert energy. In addition, enhancing one's ability to endure prolonged episodes of exertion increases their productivity. Although adequate research has not been conducted to demonstrate a benefit from implementing the aforementioned techniques, it stands to reason that FMS patients would likely benefit from occupational education and therapy.

Family Therapy

FMS is a chronic and pervasive disorder that tends to engender significant physical, psychological, and interpersonal distress. The chronic nature of FMS may tend to put stress on interpersonal relationships. In a study that assessed the quality of life of those diagnosed with FMS, patients reported a higher degree of relationship distress than those without FMS (Bernard, Prince, & Edsall, 2000). Increased interpersonal distress coupled with a lack of social support can have harmful implications. FMS patients could find it more difficult to interact with others due to elevated stress, fatigue, and chronic pain. Preece and Sandberg (2005) found that family stressors were associated with an increase in health problems and functional disability among FMS patients. Conversely, increases in family hardiness and family social support were associated with decreases in health problems, functional disability, and medication use (2005). Since family therapy

seeks to enhance interpersonal functioning, it should be incorporated into an integrative model to treat patients with FMS.

Sleep Hygiene

Sleep difficulty is a common complaint among patients with FMS. Approximately 62-75.6% of those with FMS report a sleep disturbance compared to 9% and 31.1% of healthy controls (Wolfe et al., 1990 & Yunus, Masi, & Aldag, 1989). Chronic pain, poignancy, and elevated stress may contribute to these sleeping difficulties; however, the exact cause is unknown. Enhancing sleep quality would likely contribute to improved psychological and physical well-being. Primarily, pharmacological treatments are employed to address sleep disturbances among FMS patients. Supplementing a sleeping medication with a non-pharmacological approach appears to have a synergistic effect in the treatment of sleep disturbances (Menefee et al., 2000). Incorporating sleep hygiene in the treatment of FMS would help to track and change behaviors that contribute to insomnia, including sleep preparation and pre-bedtime diet.

Limiting the amount of mental stimulation before bed was linked to an increase in sleep duration (Morin, Culbert, & Schwartz, 1994). Furthermore, reducing the consumption of caffeine, tobacco, and alcohol has shown effective in the facilitation of sleep (1994). Stimulus control is an additional non-pharmacological technique that has demonstrated improvements in sleep quality (1994). Stimulus control refers to limiting the association of bedtime stimuli to just before sleep. For example, a strong association between the bedroom and sleep can be fostered by strictly reserving the bedroom for only sleep. Consequently, sleep may readily be triggered by simply entering the bedroom.

Considering the documented success of the above techniques, educating FMS patients in sleep hygiene would likely enhance the quality of their sleep.

Trauma History

Those who report a history of childhood sexual and/or physical abuse have a higher prevalence of a chronic pain condition. Finestone et al. (2000) found that 69% of a sample of psychiatric patients who had a history of childhood sexual abuse also had an episode of chronic pain lasting more than three months, compared to 43% of non-abused psychiatric patients who reported a concurrent chronic pain condition. The study also indicated that those with a history of childhood sexual abuse tended to report more diffuse and intense episodes of pain (2000). In a study conducted by Goldberg, Pachas, and Keith (1999), those with fibromyalgia reported the highest prevalence of abuse history (64.7%), followed by a myofascial pain group (61.9%), a facial pain group (50%), and a heterogeneous pain group (48.3%). The authors also found that those who were female and raised by an alcoholic parent were more likely to belong to the FMS group than the heterogeneous pain group (1999). Furthermore, FMS patients are more likely to report a dysfunctional relationship with their parents, a history of parental physical quarrels, and a history of parental alcohol use compared to healthy controls (Imbierowicz & Egle, 2003). However, FMS patients tend to be similar to those diagnosed with a somatoform pain disorder on the above measures (2003). In another study conducted by Weissbecker et al. (2006), the investigators linked a history of child abuse, sexual abuse, and trauma with neuroendocrine deregulation among FMS patients. More specifically, those who were diagnosed with FMS and a history of trauma were more likely to have aberrant levels of cortisol. The authors concluded that the assessment of childhood

trauma should be an important consideration when treating FMS (2006). Considering the aforementioned research, traumatic events may trigger unintentional somatic reactions. Although a previous traumatic event is not an explanation for FMS, it may contribute to the pain experience. Strong social support and emotional disclosure may provide a healthy avenue for FMS patients to express and process previously experienced traumatic events. Therefore, a comprehensive therapeutic model should address and process past traumatic experiences.

Stress Management and Coping Skills

FMS patients endure many stressors that result from their condition. Many FMS patients sustain stress from interpersonal difficulties, psychological comorbidity, occupational difficulties, sleep disturbances, and trauma history. In addition, patients with FMS are particularly vulnerable to stress, which can exacerbate the experience of chronic pain (Davis, Zautra, & Reich, 2001). Hassett (2000) found that an increase in catastrophizing predicts an elevation of pain for FMS patients. Furthermore, FMS patients tended to catastrophize significantly more than those with rheumatoid arthritis. The author concluded that catastrophizing likely plays a significant role in the perception and experience of pain (2000). More recently, Zaharoff (2005) developed a model that was predictive of the quality of life among patients with FMS. An internal locus of control and a problem-focused coping strategy predicted a higher quality of life (2005).

Various techniques have been investigated for their ability to alleviate stress and enhance coping skills among patients with FMS. Kaplan, Goldenberg, & Galvin-Nadeau (1993) found that a 10-week meditation-based program helped to reduce stress levels by 25% for over half of the FMS participants. In another study, Fors and Gotestam (2000)

tested three conditions to determine which provided the most beneficial coping skills. The first condition consisted of an educational program designed to provide general information to FMS patients. The second condition provided relaxation training and guided imagery. The third condition only required the patients to talk freely about their FMS problems. The authors found that both education and guided imagery reduced levels of pain and anxiety, but talking freely about FMS problems provided no benefit (2000). Accordingly, relaxation training, guided imagery, and education seem to provide coping skills that help to mitigate the experience of pain and anxiety. Utilization of biofeedback has also demonstrated improvements in self-efficacy, pain reduction, and increased physical activity (Buckelew et al., 1998).

Nielson and Jensen (2004) have identified eight strategies that to improve activity level, pain reduction, and emotional distress. Effective coping strategies tend to focus on increasing a sense of control over pain, disarming beliefs of FMS disability, disarming beliefs that pain is a sign of damage, increasing exercise, decreasing guarding, seeking support from others, pacing activities, and using positive self-statements. The investigators concluded that cognitive-behavioral therapy is an appropriate model to address these eight areas (2004).

Cognitive Behavioral Therapy

Cognitive-behavioral therapy (CBT) reduces pain and improves general functioning among patients with FMS (Singh et al., 1998). Goldenberg et al. (1994) found that 67% of FMS patients improved when they were administered stress reduction CBT techniques, compared to only 40% who improved in a control group. Another study conducted by Sandstrom and Keefe (1998) indicated that enhancing coping skills using

a patient's psychological distress may help to prevent a potential lack of adherence to treatment.

Objectives

This study aims to investigate the current literature on Fibromyalgia and determine which interventions are shown effective in its treatment. Furthermore, this study sought to develop a manual for the treatment of fibromyalgia using the data obtained from the literature review.

- (1) FMS patients will demonstrate a significant increase in their ability to cope with the pain experience after receiving the devised treatment intervention.
- (2) FMS patients will demonstrate a significant decrease in the experience of pain after receiving the devised treatment intervention.

CHAPTER TWO

Materials and Methods

Treatment Design

A group's size, duration, frequency, setting, span, time, and participants are important considerations for developing an integrative psychoeducational approach. Although there is not much literature that identifies the ideal characteristics of psychoeducational groups for FMS, there is sufficient information that can determine the desired qualities for groups in general. Yalom (2005) consolidated much of this information into general guidelines when devising the basic structure of a group. The frequency of group meetings can range from biweekly to five days a week. Yalom (2005) argued that twice weekly groups enhance the participant's benefit from the experience without burnout or excessive demands on their time. However, the FMS population may be a special population that endures more difficulty attending frequent groups than most other populations. Groups that meet twice a week may be too physically challenging for sufferers of chronic pain; however, participants may be less invested in a group that meets too seldom. Consequently, a psychoeducational group that meets once a week would be an appropriate frequency for this population.

Budman (1994) discussed the pros and cons of various group lengths. A group's duration can range from an eight-hour day to only an hour. An hour and a half is the most commonly used duration for a group session. Any longer may be too taxing for sufferers of chronic pain, and any shorter may compromise the benefit of the group process. A ten-week span of weekly group sessions is also a commonly used design. Ten weeks is an adequate time commitment that typically is not invasive to the group members. Ten

weekly hour and a half sessions across ten weeks would provide sufficient time to address the educational and therapeutic components without an excessive demand from the participants.

A group's size is also an important consideration when designing a psychoeducational group. Yalom (2005) suggested that five to ten members is an acceptable range for the size of a group. Smaller groups are typically used for participants who wish to focus on group process and interpersonal skills. Since the nature of this group will be psychoeducational, the upper end of this range would be acceptable. A composition of ten participants would be appropriate since the group design will mostly be used for education, social support, and occasional processing. The first 45 minutes of group sessions will be used to disseminate the educational material to the participants. The remainder of the group will be used for social support, processing, and discussing the information.

A group's time and setting should be convenient for its members and conducive to the psychoeducational process. Since FMS sufferers often have difficulty getting started in the mornings, an early to late afternoon group time would be more convenient. Yalom (2005) suggested that the physical setting should be free of distractions, including aversive noises, interruptions, and visual intrusions. Typically, chairs are arranged in a circle so that group members can see one another. During the educational component, participants will be attending to the speaker. As a result, they will be seated around the speaker during this portion of the group. The second half of the group will be reserved for social support, processing, and discussing the pertinent information. A circular configuration would be appropriate during this portion of the group.

Due to the terminate nature of the group, it would be suitable to close it to new members who wish to join during its progression. This will enable the participants to become comfortable in their group setting without fluctuation of group dynamics. Furthermore, the participants would be exposed to the entire educational series without missing the first sessions. Yalom (2005) also discussed the importance of conscientiously choosing group members. The focus of this psychoeducational group will be on FMS and its related difficulties. Since this population tends to possess more than one diagnosis, a high degree of comorbidity is expected. It is anticipated that many participants will have co-occurring psychological and/or medical diagnoses. Since excluding comorbid diagnoses would exclude a large proportion of FMS sufferers, this treatment will include them. Otherwise, the results from this research would only generalize to a small proportion of the FMS population.

After considering research that identified effective techniques for FMS sufferers, educational topics addressing the following areas will be administered: rheumatology, exercise, occupational therapy, family therapy, sleep hygiene, trauma, cognitive-behavioral therapy, dual diagnosis, stress management and coping skills. Each topic will be presented by an expert in the field during the first 45 minutes of the sessions followed by 45 minutes of social support, processing, and discussion. The participants will be provided with a handout that summarizes the pertinent information from each topic. This handout is to serve as a reference so that group members could easily access this information when necessary. In addition, each group member will be provided with a one inch three ring binder for note taking and to consolidate the provided information. Please

refer to Appendix A to view the treatment manual, including the handouts, worksheets, and treatment objectives and goals for each week.

It is important to note that additional resources should be provided when addressing the topic of trauma. When addressing this topic, each group member will be provided with a list of local resources that will provide the opportunity to address their previous trauma further if they choose to. In addition, the group members will be provided with an opportunity to speak individually with a facilitator after the group in order to address any emotional issues that may arise as a result of this topic. The facilitator will help group members find appropriate referrals and encourage them to follow through with accessing those services.

Materials

The following instruments are completed before and after treatment in order to monitor treatment outcome.

Pain Coping Inventory (PCI)

The Pain Coping Inventory is a 92-item self-report questionnaire that takes approximately 30 minutes to complete. It was developed by Bruce Eimer to assess the behavioral, cognitive, and psychological dimensions of chronic pain. The PCI was supported as a valid and reliable measure for assessing pain transformation, distraction, reducing demands, retreating, worrying, and resting among FMS patients (Kraaimaat & Evers, 2003). Internal consistency coefficients for a rheumatoid arthritis sample ranged from .50 to .81 across these six factors (2003). Due to the broad dimensional scope of the PCI, it is an appropriate measure to gauge the success of an integrative psychoeducational approach to treating FMS patients.

Chronic Pain Coping Inventory (CPCI)

The Chronic Pain Coping Inventory was devised to assess the strategies that participants may use to manage their chronic pain. The CPCI contains 65 items and measures 11 coping strategies. The various strategies are categorized into three groups, including wellness-focused strategies (exercise, coping self-statements, relaxation, and task persistence), illness-focused strategies (guarding, asking for assistance, nonsteroid medication use, resting, opioid medication use, and sedative-hypnotic medication use), and a social support seeking strategy (Jensen et. al., 1995). This instrument demonstrated test-retest reliability ranging from .65 to .90, and internal consistency ranging from .74 to .91. (1995).

Pain Scale (PS)

The Pain Scale was developed to assess participants' level of pain during the past month. It consists of six items and takes a minute to complete. The Pain Scale was originally devised to assess pain in rheumatoid arthritis patients, but it can be slightly modified to assess pain in FMS patients (Kraaimaat & Evers, 2003). The internal consistency for the Pain Scale ranges from .86 to .92. (Evers et. al., 1998 & Huiskes et. al., 1990).

Coping Strategies Questionnaire (CSQ)

The Coping Strategies Questionnaire (CSQ) is supported as a valid measure for FMS patients (Burckhardt & Henriksoon, 2001). Its internal consistency has been found to range from .57 to .89 (Gil et. al., 1989; Keefe et. al., 1987; Spinhoven et. al., 1989). It was devised to assess the strategies used to divert attention away from pain, reinterpreting painful sensations, use of coping self-statements, ignoring painful sensations, hoping pain

will diminish, use of catastrophizing thoughts, increasing exertion, and increasing behaviors that serve to reduce painful sensations. Assessing these areas will help to determine the impact of the treatment on strategies for coping with pain.

Beck Depression Inventory—Second Edition (BDI-II)

The Beck Depression Inventory—Second Edition (BDI-II) is a 21-item self-report measure of depressive symptoms experienced during the past week. Extensive reliability and validity have been reported on this measure (Beck, Steer, & Brown, 1996). The BDI-II is supported as a valid measure for the assessment of depressive symptoms among individuals with chronic pain (Harris & D'Eon, 2008). The BDI-II will be also administered after each session to gauge each individual's level of emotional distress. The results of this measure will be utilized as one of the indicators to determine a group member's level of need for concomitant treatment of depression.

CHAPTER THREE

Treatment Manual Weekly Objective and Goals

Week 1

Objectives

- (1) Introduce the facilitators, group format, and group topics.
- (2) Provide the group with an overview of fibromyalgia including its description, associated symptoms, and known treatments.

Goals

- (1) Group members will obtain a better understanding of the nature of fibromyalgia.
- (2) Group members will have an opportunity to ask questions and discuss the presented material.
- (3) Group members will gain an understanding of their personal experience with fibromyalgia by completing the worksheet for week 1.
- (4) Group members will be oriented to scheduling their activities using the calendar presented in week 1.

Week 2

Objectives

- (1) Present information on the benefit of exercise for those with a chronic pain condition.
- (2) Devise individualized plans to implement exercise into each group member's weekly routine.

Goals

- (1) Group members will develop an appreciation for the benefits of exercise for those with fibromyalgia.
- (2) Group members will develop an understanding of which exercises are appropriate for those with fibromyalgia.
- (3) Group members will individualize their exercise regimen by completing their worksheet for week 2 and updating their schedule with exercise activities.
- (4) Group members will have an opportunity to discuss relevant issues utilizing the social support format of the group.

Week 3

Objectives

- (1) Present information on the importance of addressing mood symptoms that frequently accompany fibromyalgia.
- (2) Devise individualized plans to explore mood symptoms, identify coping strategies, and determine the need for concomitant treatment.

Goals

- (1) Group members will develop an understanding for the prevalence of mood symptoms that co-occur with chronic pain conditions.
- (2) Group members will develop an understanding of techniques that help cope with mood symptoms.
- (3) Group members will individualize their plan to identify and cope with mood symptoms by completing their worksheet for week 3 and updating their

schedule with mood coping activities.

- (4) Group members will have an opportunity to discuss relevant issues utilizing the social support format of the group.

Week 4

Objectives

- (1) Present information on the benefit of identifying stress and on techniques to mitigate stress through relaxation exercises.
- (2) Devise individualized plans to implement relaxation exercises into each group member's weekly routine.

Goals

- (1) Group members will develop an understanding of the prevalence and sources of stress for those with a chronic pain condition.
- (2) Group members will develop an appreciation for the benefit of identifying stress and managing it through relaxation exercises.
- (3) Group members will individualize their plan to engage in regular relaxation exercises by completing their worksheet for week 4 and updating their schedule with relaxation exercises.
- (4) Group members will have an opportunity to discuss relevant issues utilizing the social support format of the group.

Week 5

Objectives

- (1) Present information on the benefit of implementing techniques to conserve and reallocate energy for those with fibromyalgia.

- (2) Devise individualized plans to implement energy conservation techniques into each group member's weekly routine.

Goals

- (1) Group members will develop an appreciation for the benefit of implementing techniques to conserve energy for those with fibromyalgia.
- (2) Group members will individualize their energy conservation techniques by completing their worksheet for week 5 and updating their schedule with energy conservation activities.
- (3) Group members will have an opportunity to discuss relevant issues utilizing the social support format of the group.

Week 6

Objectives

- (1) Present information on the importance of addressing mood symptoms that frequently accompany fibromyalgia.
- (2) Orient group members to the CBT model.
- (3) Devise individualized plans to explore mood symptoms, identify maladaptive automatic thoughts, and implement strategies to challenge maladaptive automatic thoughts.

Goals

- (1) Group members will develop an understanding for the prevalence of mood symptoms that co-occur with chronic pain conditions.
- (2) Group members will develop an understanding of techniques that help identify and challenge maladaptive automatic thoughts.

- (3) Group members will individualize their plan to identify and challenge maladaptive automatic thoughts by completing their worksheet for week 6 and updating their schedule.
- (4) Group members will have an opportunity to discuss relevant issues utilizing the social support format of the group.

Week 7

Objectives

- (1) Present information on the importance of addressing sleep hygiene, especially for those with fibromyalgia.
- (2) Devise individualized plans to utilize the various techniques presented to enhance sleep quality.

Goals

- (1) Group members will develop an understanding for the prevalence of sleep difficulty that co-occur with chronic pain conditions.
- (2) Group members will develop an understanding of techniques that help to enhance sleep quality.
- (3) Group members will individualize their plan to implement sleep hygiene techniques by completing their worksheet for week 7 and updating their schedule with regular sleep hygiene activities.
- (4) Group members will have an opportunity to discuss relevant issues utilizing the social support format of the group.

Week 8

Objectives

- (1) Present information on the importance of managing relationships.
- (2) Devise individualized plans to explore the nature of each group member's significant relationships and devise techniques to enhance those relationships.

Goals

- (1) Group members will develop an appreciation of how symptoms of fibromyalgia impact meaningful relationships .
- (2) Group members will develop an understanding of techniques that help to enhance the quality of significant relationships.
- (3) Group members will individualize their plan to enhance the quality of their significant relationships by completing their worksheet for week 8 and updating their schedule with activities that promote healthy relationships.
- (4) Group members will have an opportunity to discuss relevant issues utilizing the social support format of the group.

Week 9

Objectives

- (1) Present information on the prevalence of trauma history for those diagnosed with fibromyalgia.
- (2) Devise individualized plans to explore trauma history, identify potential coping strategies, and determine the need for concomitant treatment.

Goals

- (1) Group members will develop an understanding for the prevalence of trauma

history that co-occur with fibromyalgia.

- (2) Group members will develop an appreciation for the utility in addressing possible mood disturbances associated with a history of trauma.
- (3) Group members will individualize their plan to identify and address the possible presence of trauma history by completing their worksheet for week 9.
- (4) Group members will have an opportunity to discuss relevant issues utilizing the social support format of the group.

Week 10

Objectives

- (1) Present information on the importance of continuing to implement the techniques after formal treatment is discontinued.
- (2) Devise individualized plans to identify which interventions have been the most effective and form individualized plans to continue implementing these techniques after formal treatment is discontinued.

Goals

- (1) Group members will develop an appreciation for the utility of continuing to implement their newly acquired techniques after formal treatment has discontinued.
- (2) Group members will identify which techniques have been effective and devise an individualized plan to continue implementing these techniques after formal treatment has discontinued.
- (3) Group members will have an opportunity to express their concerns around terminating formal treatment.

- (4) Group members will have an opportunity to discuss relevant issues utilizing the social support format of the group.

CHAPTER FOUR

Treatment Manual Weekly Handouts

Week 1: Fibromyalgia Weekly Topics Handout

- (1) General information about FMS and known treatments.
- (2) The benefits of exercise and the development of a personalized exercise plan.
- (3) Enhance self-awareness of thoughts, feelings, and emotions around FMS.
- (4) Discuss and practice relaxation techniques.
- (5) Development of skills to help economize and reallocate energy expenditure.
- (6) Discuss the role of mental health issues that may impact your experience of FMS.
- (7) Discuss pertinent issues and techniques designed to enhance sleep hygiene.
- (8) Examine how pain affects our relationships.
- (9) Explore the association between trauma, Fibromyalgia, and pain experience.
- (10) Develop a treatment maintenance plan.

Each topic will be presented by an expert in the field. The experts will provide essential information from their profession. Once this information is presented, you will be provided with an opportunity to incorporate it into your treatment plan. You may have questions during this process. There are two group facilitators who will help you incorporate the experts' information into a personalized treatment plan.

You may find some topics more useful than others. All of the subjects presented have been shown to help treat those with Fibromyalgia. It is okay if you do not find a particular topic useful, but please approach each one with an open mind.

Week 1: An Overview of Symptoms and Treatments Handout

What is fibromyalgia?

- (1) Fibromyalgia is a chronic pain disorder that is characterized by widespread muscle pain.
- (2) It affects nearly 6 million people in the United States.
- (3) A diagnosis of fibromyalgia requires at least 11 out of 18 “tender point” sites to be sensitive.
- (4) A diagnosis of fibromyalgia may occur after other conditions have been ruled out.

What are the symptoms?

- (1) Most will have a unique constellation of symptoms. Some of these symptoms will apply to you and some will not.
- (2) Muscle stiffness is typically present upon awakening and tends to improve as the day progresses; however, the muscle stiffness can remain throughout the day.
- (3) Most experience pain within the neck, middle and lower back, arms and legs, and chest wall.
- (4) Joints may feel swollen, but inflammation of the joints (known as arthritis) is not apparent.
- (5) Other common symptoms include fatigue, anxiety, sleep difficulty, Irritable Bowel Syndrome (IBS), and paresthesia. Some experience limited jaw movement; clicking, snapping, or popping sounds while opening or closing the mouth; pain within facial or jaw muscles.

What is known to aggravate fibromyalgia?

- (1) Anxiety or stress, poor sleep, exertion, or exposure to cold or dampness.

How do you address these aggravating factors?

- (1) This question will be addressed throughout this treatment program. Each group topic is chosen to help minimize the aggravating factors and to maximize the positive factors. Some methods to address aggravating factors include:

- (a) Conduct formal and informal assessments to detect potential mood disturbances, such as depression or anxiety.
- (b) Seek a mental health specialist for further evaluation if appropriate.
- (c) Explore exercise options.
- (d) Examine your sleep hygiene.
- (e) Find ways to minimize stress.

These issues will be presented in greater detail in their respective group topic.

What are the current treatments?

- (1) Unfortunately, the etiology of fibromyalgia is unknown.
- (2) Therefore, prevention and directed treatment is not possible.
- (3) Current therapy is integrative, consisting of drug treatment, physical therapy, and psychological interventions

The previous handout was devised in collaboration with Emmanuel Katsaros, D.O.

Week 1: Worksheet

The goal of this worksheet is to chart your history with fibromyalgia. This will include previous symptoms, treatments, and medications. This task will provide a foundation for later groups. It is important to have a clear understanding of where you have been in order to successfully plan where you are going. The group facilitators will provide assistance if you have any questions.

What are your current symptoms of fibromyalgia?

_____	_____
_____	_____
_____	_____

What were some of your previous symptoms?

_____	_____
_____	_____
_____	_____

What methods have you used to manage your symptoms? Which ones were helpful?

Which ones were not?

Methods?

Was it helpful?

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Please update this information as you continue through the program

Which medications have you tried in the past? Which ones were helpful? Which ones were not?

Methods?	Was it helpful?
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

When did you first notice your symptoms?

When were you diagnosed with fibromyalgia?

Were there any other difficulties during the time you first noticed symptoms (i.e., car accident, physical or mental abuse, excessive stress, family difficulties, trouble at work, etc.). If so, please list?

Please update this information as you continue through the program

Weekly Calendar (Monday – Thursday)

Monday	Tuesday	Wednesday	Thursday
4am _____	4am _____	4am _____	4am _____
5am _____	5am _____	5am _____	5am _____
6am _____	6am _____	6am _____	6am _____
7am _____	7am _____	7am _____	7am _____
8am _____	8am _____	8am _____	8am _____
9am _____	9am _____	9am _____	9am _____
10am _____	10am _____	10am _____	10am _____
11am _____	11am _____	11am _____	11am _____
12pm _____	12pm _____	12pm _____	12pm _____
1pm _____	1pm _____	1pm _____	1pm _____
2pm _____	2pm _____	2pm _____	2pm _____
3pm _____	3pm _____	3pm _____	3pm _____
4pm _____	4pm _____	4pm _____	4pm _____
5pm _____	5pm _____	5pm _____	5pm _____
6pm _____	6pm _____	6pm _____	6pm _____
7pm _____	7pm _____	7pm _____	7pm _____
8pm _____	8pm _____	8pm _____	8pm _____
9pm _____	9pm _____	9pm _____	9pm _____
10pm _____	10pm _____	10pm _____	10pm _____
11pm _____	11pm _____	11pm _____	11pm _____
12am _____	12am _____	12am _____	12am _____

Weekly Calendar (Friday – Sunday)

Friday	Saturday	Sunday
4am _____	4am _____	4am _____
5am _____	5am _____	5am _____
6am _____	6am _____	6am _____
7am _____	7am _____	7am _____
8am _____	8am _____	8am _____
9am _____	9am _____	9am _____
10am _____	10am _____	10am _____
11am _____	11am _____	11am _____
12pm _____	12pm _____	12pm _____
1pm _____	1pm _____	1pm _____
2pm _____	2pm _____	2pm _____
3pm _____	3pm _____	3pm _____
4pm _____	4pm _____	4pm _____
5pm _____	5pm _____	5pm _____
6pm _____	6pm _____	6pm _____
7pm _____	7pm _____	7pm _____
8pm _____	8pm _____	8pm _____
9pm _____	9pm _____	9pm _____
10pm _____	10pm _____	10pm _____
11pm _____	11pm _____	11pm _____
12am _____	12am _____	12am _____

Week 2: Exercise Handout

Exercise is an important part of everyone's health. It has been shown to elevate mood, enhance sleep, and increase energy for those with fibromyalgia.

What are the benefits of exercise?

What types of exercise may be appropriate for those with fibromyalgia?

(1) ROM, Range of Movement/Stretching

(2) Low Impact Exercise

(a) Bicycling (goal of 30 minutes)

(b) Aquatic exercise

(1) Aerobic Exercise

(a) Walking or Jogging

(b) Start slowly (5 minutes)

(c) Work up to 60 minutes per day (3-4 times per week)

(d) Alternate between walking and slow jogging

What are some of the barriers to starting an exercise routine?

(1) Lack of time

(2) Hard to get going (i.e., too much pain).

(3) Insufficient resources

Week 2: Exercise Worksheet

The goal of this worksheet is to examine the benefits and barriers in developing and maintaining a healthy exercise routine. Research has repeatedly shown that exercise helps to reduce fatigue, pain, and stress while increasing the quality of sleep for those with fibromyalgia. It is difficult for many with fibromyalgia to initiate a healthy exercise

routine. This is due to many of the same reasons (fatigue, pain, and stress). It is important to note that the benefits of exercise are not immediate, but you should notice a difference after a few weeks.

What are some of the previous or current exercises you have done?

Which ones have you found helpful?

Which benefits of establishing a healthy exercise routine appeal to you?

What are some of your barriers to establishing a healthy exercise routine? (e.g., time, pain, fatigue, etc.)

Since exercise has been demonstrated to significantly help those with fibromyalgia, our goal is to help you to creatively work around some of the barriers. Please work with the group and discuss the barriers to exercising. Also, please take notes below because this is often an informational process.

Notes:

Please list each of your barriers to exercise and the creative solution or alternative.

You may find that some of your barriers do not have adequate solutions yet. This is a work in progress that we hope you will continue.

Barrier	Creative solution or alternative
_____	_____

Barrier	Creative solution or alternative
_____	_____

Barrier	Creative solution or alternative
_____	_____

Barrier	Creative solution or alternative
_____	_____

Barrier	Creative solution or alternative
_____	_____

Week 3: Dual Diagnosis Handout

Living with fibromyalgia can be physically and emotionally difficult. The physical difficulties are usually easy to notice, but the emotional symptoms may not be as obvious. There are many natural emotions that people with fibromyalgia experience. The goal of this topic is to raise awareness around those emotions.

What are some of the typical aversive emotions?

(1) Depression

- (a) Affects about 20% of the population at some point in their lives.
- (b) Affects about 50% of fibromyalgia sufferers at some point in their lives.
- (c) Affects twice as many women
- (d) First episode of depression typically occurs between 25-45 years old.
- (e) Emotional Symptoms
 - (f) Chronic sadness
 - (g) Lack of enjoyment in activities that once were pleasurable
 - (h) Self-blame
 - (i) Loss of sex drive or interest in sex
 - (j) Feelings of worthlessness
- (k) Behavioral Symptoms
 - (l) Trouble concentrating
 - (m) Irritability
 - (n) Refusal to participate in social activities

(2) Physical Symptoms

- (a) Nausea and indigestion
- (b) Weight loss or weight gain
- (c) Difficulty sleeping

(3) Anxiety

- (a) Affects between 10-20% of the population.
- (b) Affects about 20% of fibromyalgia sufferers.
- (c) Symptoms:
 - (1) Muscle tension
 - (2) Headaches
 - (3) Sleep disturbances
 - (4) Trembling or twitching
 - (5) Headaches
 - (6) Irritability
 - (7) Lack of concentration

What can I do about these feelings?

- (1) Meet with a mental health specialist
- (2) Pharmacotherapy

Week 3: Dual Diagnosis Worksheet

Having fibromyalgia can be extremely stressful and difficult to cope with. It is not uncommon for people with chronic pain and fatigue to have an emotional response. The successful management of fibromyalgia includes identifying and addressing the emotions that accompany it. The goal of this worksheet is to identify these normal emotional responses and to devise ways to manage them. The group facilitators will provide assistance if you have any questions.

What are your physical symptoms of fibromyalgia?

- (1) _____
- (2) _____

(3) _____

(4) _____

(5) _____

(6) _____

Please identify the emotional responses you typically have to the symptoms listed above.

Please note that each symptom may trigger a different emotional response.

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

(6) _____

How do you typically manage or cope with these emotions?

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

(6) _____

What are some additional methods to managing or coping with these emotions?

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

(6) _____

Remember, emotions are an important part of everyone's daily life. It is what makes us human. It is not uncommon for chronic pain, fatigue and other physical symptoms to result in difficult emotions. Being aware of your emotional responses is the first step to managing them.

Week 4: Stress and Relaxation Handout

What is stress?

(1) Stress is any change you must adapt to

(2) It can be good or bad

(3) How you respond to stress determines the impact it will have on your life

What are sources of stress?

(1) Your environment

(2) Physiological

(3) Social

(4) Financial

(5) Your thoughts

(6) Spiritual dilemmas

What are the different types of stress?

(1) Flight or fight

(2) Chronic stress

What are some long-term negative effects of stress?

(1) The body produces stress hormones that slow down functions your body needs. Examples are digestion, growth, tissue repair, responses of your immune system and inflammatory systems.

(2) Chronic stress can increase vulnerability to diseases

(3) Chronic stress and disease can lead to hyperactivity in your muscles, cardiovascular system, gastrointestinal system.

(4) If you already have a medical condition, stress will make symptoms associated with your medical condition increase.

(5) Stress may speed up the aging process.

What are signs and symptoms of stress?

(1) Physical

(2) Emotional

(3) Behavioral

(4) Social

(5) Thoughts

(6) Spiritual

What techniques help reduce stress?

(1) Regular, deep breathing

(2) Visualization

(3) Meditation

Week 4: Stress and Relaxation Worksheet

Please identify some areas where you experience stress or tension. Areas of stress or tension may be external (work, family, traffic, etc.), internal (pain, fatigue, poor concentration, etc.), or a particular time of day (mornings, etc.).

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

What were your experiences with each of the relaxation exercises?

(1) Breathing: _____

(2) Visualization: _____

(3) Meditation: _____

(4) Other: _____

Which of these techniques was most effective for you?

(1) _____

(2) _____

How might these techniques be effective in reducing your stress or tension in the areas you listed above?

How can you implement this technique(s) into your daily life?

Week 5: Energy Reallocation Handout

(1) General tips

- (a) Gradually start new activities. Begin to do a little more each day as you feel better, but remember to take frequent breaks.
- (b) Establish a routine: Allow enough time to complete each task.
- (c) Be mindful of your body's reaction to activity. Be sure to take a break when your body gives you signs of fatigue, dizziness, headache, etc.
- (d) Avoid or reduce stress as much as possible. Be sure to take time to relax at the end of each day.
- (e) Try to keep your activity level the same each day. Don't overwork yourself on "good days."

(2) Energy conservation techniques

- (a) Make a plan for the day, week, month (Remember scheduling!)
- (b) Alternate heavy and light activities
- (c) Plan rest periods
- (d) Avoid doing too much at any one time.

(3) Analyze each activity

- (a) Is the job necessary?
- (b) Can someone else do the task?

(c) Can the job be simplified?

(4) Work smartly

(a) Store supplies for each activity in a single place.

(b) Store supplies at point of first use.

(c) Store supplies within easy reach.

(5) Good posture, work at good work heights, adjust as needed.

(a) Elbows at 90 degrees and shoulders relaxed.

(b) Avoid stretching and bending over.

(c) Have good working conditions.

(d) Use both hands as much as possible for greater efficiency and speed.

(e) Avoid unnecessary worry, irritation, rushing or frustration when possible.

(f) Use relaxation techniques as needed (deep breathing and visualization)

(6) Work Efficiently

(a) Plan smartly what you will be doing that day.

(b) Allow enough time for each task

(c) Plan for more strenuous tasks when you know you can do them.

(d) Devise more efficient ways of doing each task.

(e) Go slowly and pace yourself.

Week 5: Energy Reallocation Worksheet

It is not uncommon for pain and fatigue to impede your daily activities. The goal of this topic is to provide concrete tips on making your daily tasks more manageable.

Accordingly, the goal of this worksheet is to tailor this information around your

individual circumstances. Please take the time to determine how this information can directly benefit you.

Please list your most strenuous daily activities (including tasks, chores, errands, etc.)

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

(6) _____

Please choose two from the list above and write how you can pace those activities.

(1) _____

(2) _____

For the same two activities, please identify which energy conservation and work efficiency tips might help.

(1) _____

(2) _____

Week 6: Emotions Handout

Situation → Thought → Emotion

Situations can trigger painful emotions. If you lose your job because of chronic pain you may feel angry, sad, helpless, worthless, and fearful. Although these emotions are very natural and reasonable to feel, they can be unbearable when too intense.

Emotions do not directly result from situations. Instead, situations cause thoughts or images which then cause emotions as shown above. The situation can be either internal or external. For example,

(1) External Situation

Lose job → Thoughts of being unwanted → Feelings of worthlessness

(2) Internal Situation

Experiencing pain → Thoughts of not getting better → Feelings of frustration.

One way to cope with a painful emotion is to examine the thought behind it.

Many times, the thought is not completely accurate. It can be exaggerated or distorted.

We all have thoughts that are exaggerated or distorted, but we usually are not aware of them. Below are some examples of distorted thinking and more accurate alternative thoughts.

(1) Catastrophizing

Predicting the future negatively without considering other, more likely outcomes.

Situation: Experiencing pain

Catastrophizing thoughts: "I will always be in pain."

"I will never get better."

Resulting emotions: Frustration, anger, and sadness

More accurate thoughts: "I'm in pain now, but it won't last forever."

"I'm in pain now, but I can still get better."

(2) Labeling

Putting a fixed label on yourself without considering other more likely explanations.

Situation: Unable to perform a daily task
(e.g. cleaning, cooking, driving)

Labeling thoughts: "I'm a helpless person."
"I'm useless."

Emotions: Anger, fear, and sadness

More accurate thoughts: "I'm too tired to clean and cook now, but maybe I
can after some good rest."

"I'm in too much pain to drive now, but I can later."

(3) All or Nothing Thinking

Viewing a situation in only two categories instead of a continuum.

Situation: Waking up in the morning with pain

All or Nothing thoughts: "My whole day will be painful"
"I cannot function unless this pain goes away"

Emotions: Frustration, agitation, and helplessness

More Accurate thoughts: "I'm in some pain now, but my whole day is not
ruined."

"I can still do a few things even though I'm

experiencing some pain.”

Remember to identify the thoughts behind a painful emotion. You will often find that the thoughts are not always accurate. Consequently, the painful emotion will not be accurate.

Week 6: Emotions Worksheet

Situation → Thought → Emotion

Can you think of a time when you had a painful emotion after a difficult situation? Please try to identify a situation that caused disturbing thoughts and led to a painful emotion. The group facilitators will be available for any questions you may have.

Situation: _____

Thought: _____

Emotion: _____

Can you think of an exaggerated or distorted thought that often comes to mind?

Once you can identify these thoughts, you can begin to examine them. Often, they are not accurate. What might be a more accurate thought?

Next time you have an emotional response to a situation, try to find the thought that was behind your feelings. This skill will help you have insight and influence over your emotional experiences.

Week 7: Sleep Hygiene Handout

Fibromyalgia typically reduces sleep quality. This is problematic as sleep quality impacts mood, health, and pain tolerance. There are several ways to increase sleep

quality while living with fibromyalgia. In most cases, medication alone is not the most effective way to improve sleep. In fact, there are several things you can do with or without medication that will help your sleep.

(1) Sleep only when sleepy.

(a) This reduces the time you are awake in bed.

(2) If you can't fall asleep within 20 minutes, get up and do something boring until you feel sleepy.

(a) Sit quietly in the dark or read the warranty on your refrigerator. Don't expose yourself to bright light while you are up. The light gives cues to your brain that it is time to wake up.

(3) Don't take naps.

(a) This will ensure you are tired at bedtime. If you just can't make it through the day without a nap, sleep less than one hour before 3pm.

(4) Get up and go to bed the same time every day.

(a) When your sleep cycle has a regular rhythm, you will feel better.

(5) Refrain from exercise at least 4 hours before bedtime.

(a) Regular exercise is recommended to help you sleep well, but the timing of the workout is important. Exercise in the morning or early afternoon.

(6) Develop sleep rituals.

(a) It's important to give your body cues that it is time to slow down and sleep. Listen to relaxing music, read something soothing for 15 minutes, have a cup of caffeine free tea, do relaxation exercises.

(7) Only use your bed for sleeping

- (a) Refrain from using your bed to watch TV, pay bills, do work or reading. So when you go to bed your body knows it's time to sleep. Sex is the only exception.

(8) Stay away from caffeine, nicotine and alcohol at least 4 hours before bed.

- (a) Caffeine and nicotine are stimulants. Coffee, tea, cola, chocolate and some medication contain caffeine. Cigarettes contain nicotine. Alcohol may seem to help sleep, but it causes fragmented sleep, thus reducing sleep quality.

(9) Have a light snack before bed

- (a) If your stomach is too empty, that can interfere with sleep. Also, a heavy meal before bedtime can interfere as well. Warm milk and turkey contain tryptophan, which acts as a natural sleep aid. Tryptophan is probably why a warm glass of milk may help.

(10) Take a hot bath 90 minutes before bedtime

- (a) A hot bath will raise your body temperature, but it is the drop in body temperature that may leave you feeling sleepy.

Remember, good sleep will likely elevate your mood, promote good health and enhance your ability to cope with fibromyalgia. These tips were shown to be effective on those with sleep difficulties. Every suggestion may not right for you, but most likely a few of them will help to increase your sleep quality.

Week 7: Sleep Hygiene Worksheet

Sleep is an important part of everyone's health. Poor sleep can decrease concentration, focus, and attention, while increasing pain and fatigue. The goal of this worksheet is to chart your typical sleeping pattern, as well as to devise a personalized strategy to enhance sleep. The group facilitators are available to respond to questions.

What time do you typically fall asleep? _____

What time do you usually wake up? _____

On average, how much sleep do you get each night? _____

How consistent is your sleeping schedule? _____

What is the quality of your sleep? _____

What behaviors may be preventing you from falling asleep?

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

(6) _____

What are some new things you can do to increase your sleep?

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

(6) _____

Week 8: Managing Relationships Handout

Impact of Fibromyalgia on you and your Family

(1) Possible losses

- (a) Income
- (b) Independence
- (c) Good health
- (d) Future plans

(2) Strain on relationships

- (a) Tendency to isolate.
- (b) Difficulty expressing emotions, needs and experiences with others.
- (c) Less likely to take initiative to meet new people.
- (d) Family and friends may become exasperated because they don't know how to respond to fibromyalgia.

How to Take Responsibility for Making your Relationships Positive

- (1) Talk about changes in the relationship.
- (2) Educate self and others about FMS.
- (3) Foster good communications skills.

Ways to Nurture your Relationships

- (1) Recognize that fibromyalgia has changed your life.
- (2) Learn new ways to communicate.
- (3) Talk with partner about sexual intimacy.
- (4) Adjust expectations.

(5) Be prepared to let some friends go.

(6) Emphasize what you CAN do rather than what you CANNOT do.

Ways to Communicating with Children

(1) Children cannot be fooled so be honest.

(2) Encourage children to help around the house.

(3) Recognize and affirm their emotions

(4) Find ways to have positive and fun experiences

(5) Assure them you love them!

Ways to Take Care of Yourself

(1) Grieve your losses and dream new dreams

(2) Deal with the past, let it go.

(3) Make goals for yourself.

(4) Love, honor, and value yourself.

(5) Educate yourself on FMS

(6) Watch for signs of depression and get help early.

(7) Accept help and give specific suggestions.

(8) Establish boundaries for how you want to be treated.

(9) Seek support from others with FMS

Previous handout was devised in collaboration with Jana Boyd, PhD

Week 8: Managing Relationships Worksheet

Fibromyalgia does not only affect the individual diagnosed with it; it can affect everyone who has a relationship with you. It is important to be aware of how your experience with fibromyalgia may be impacting your interactions with friends and

family. It can take a lot of energy to maintain good relationships. Often, fibromyalgia distracts from investing energy into loved ones. The goal of this worksheet is to identify ways to enhance the quality of your relationships. The group facilitators are available to respond to any questions.

What are your most important relationships?

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

How has your experience with fibromyalgia influenced these relationships?

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

What are some ways to enhance the quality of these relationships?

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

Remember that healthy relationships are an important part of a healthy individual.

Week 9: Emotional Trauma Handout

- (1) Individuals with FMS are more likely to have been victimized (by physical, emotional or sexual abuse either in childhood or as an adult) in their lives than those without FMS.
- (2) Trauma causes Post Traumatic Stress Disorder (PTSD) and PTSD appears to have an even stronger connection to FMS than does trauma. In some studies, rape, combat trauma or adult victimization, conditions likely to result in PTSD, are very strong predictors of FMS.
- (3) There are two possible explanations for the link between PTSD and FMS:
 - (a) Possibility one: Trauma causes PTSD which then causes FMS
 - (b) Possibility two: Individuals who have pre-existing abnormalities in stress hormone levels are more prone to develop PTSD and are more prone to develop FMS, unrelated to whether they have PTSD.
- (4) If PTSD is the stronger connection between trauma and FMS, or if you recognize that trauma may have played a role in the development of your FMS, then what does that mean for you?
- (5) If possible, it is probably better to face any past traumatic experiences.
- (6) Consider whether you have PTSD and seek treatment if you do.

What is PTSD?

- (1) An anxiety disorder precipitated by an event that falls outside usual human experience, causes intense fear, helplessness or horror, and is characterized by such symptoms as nightmares, flashbacks, avoidance of reminders, amnesia for the event, difficulty sleeping, and exaggerated startle response.

What is the best treatment for PTSD?

- (1) Cognitive behavioral therapy (best researched, shown to be effective in well designed studies), specifically exposure therapy.
- (2) Antidepressant medications treat intrusive, avoidant, and hyperarousal symptoms.

The previous worksheet was devised in collaboration with Lorraine Young, Ph.D.

Week 9: Emotional Trauma Worksheet

Research has shown that those with fibromyalgia are more likely to have experienced a traumatic event in their past. A traumatic event can take many forms (i.e., previous abuse, car accident, illness, loss of job, divorce, etc.) It is normal for a traumatic event to have long lasting emotional and physiological consequences. These emotional and physiological consequences may continue until the traumatic experience is directly addressed. The goal of this worksheet is to identify suspected traumatic events and the symptoms associated with them.

Please list any suspected traumatic event that you have experienced. Remember, a traumatic event can take many forms.

(1) _____

(2) _____

(3) _____

How did these events affect you emotionally and physically?

How did you deal or cope with these emotional and physical symptoms?

What can you do currently to continue coping with the emotional and physical symptoms?

(1) _____

(2) _____

(3) _____

Week 10: Aftercare Plan Worksheet

The goal of this worksheet is to devise a personalized aftercare program. Please review the materials from the previous weeks and identify which information you found the most beneficial.

What topics have you found most beneficial?

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

How can this information be incorporated into your daily life?

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

What types of exercise can you incorporate into you daily life?

(1) _____

(2) _____

(3) _____

Remember, it is important to incorporate these new activities into your everyday life. The more you make these changes a routine part of your week, the more successful they will be. It takes time to see results. Allow a few weeks before expecting to see an improvement.

References

- Arent, S.M., Landers, D.M., & Etnier, J.L. (2000) The effects of exercise on mood in the elderly: A meta-analytic review. *Journal of Aging and Physical Activity*, 8, 407-430.
- Beck, A.T., Steer, R.A., & Brown, G.K. (1996). *Beck Depression Inventory—Second Edition manual*. San Antonio, TX: The Psychological Corporation.
- Bernard, A.L., Prince, A., & Edsall, P. (2000). Quality of life issues for fibromyalgia patients. *Arthritis Care & Research*, 13(1), 42-50.
- Breus, M.J., & O'Connor, P.J. (1998). Exercise-induced anxiolysis: A test of the time-out hypothesis in high-anxious females. *Medicine and Science in Sports and Exercise*, 30, 1107-1112.
- Buckelew, S.P., Conway, R., Parker, J., Deuser, W.E., Read, J., Witty, T.E., et al. (1998). Biofeedback/relaxation training and exercise interventions for fibromyalgia: A prospective trial. *Arthritis Care & Research*, 11(3), 196-209.
- Budman, S. (1994). *Treating time effectively*. New York: Guilford Press.
- Burckhardt, C.S. (2005). Educating patients: Self-management approaches. *Disability and Rehabilitation*, 27(12), 703-709.
- Burckhardt, C.S. & Henriksson, C. (2001). The coping strategies questionnaire—swedish version: Evidence of reliability and validity in patients with fibromyalgia. *Scandinavian Journal of Behaviour Therapy*. 30(3), 97-107.
- Clayton, A.H. (2004). Fibromyalgia, depression, and the menopausal transition. *Primary Psychiatry*, 11(1), 31-33.
- Courneya, K.S., & McAuley, E. (1995). Cognitive mediators of the social influence—exercise adherence relationship: A test of the theory of planned behavior. *Journal of Sport Psychology*, 17, 325-337.
- Davis, M.C., Zautra, A.J., & Reich, J.W. (2001). Vulnerability to stress among women in chronic pain from fibromyalgia and osteoporosis. *Annals of Behavioral Medicine*, 23(3), 215-226.
- Dobkin, P.L., Sita, A., & Sewitch, M.J. (2006). Predictors of adherence to treatment in women with fibromyalgia. *Clinical Journal of Pain*, 22(3), 286-294.
- Dunn, A.L., Trivedi, M.H., Kampert, J.B., Clark, C.G., & Chambliss, H.O. (2005) Exercise treatment for depression: Efficacy and dose response. *American Journal of Preventive Medicine*. 28, 1-8.

- Engel, G.L. (1977). The need for a new medical model: A challenge for biomedicine. *Science*, 196(4286), 129-136.
- Engel, G.L. (1980). The clinical application of the biopsychosocial model. *American Journal of Psychiatry*, 137(5), 535-544.
- Evers, A.W., Taal, E., Kraaijmaat, F.W., Facobs, J.W., Abdel-Nasser, A., Rasker, J.J., et al. (1998). A comparison of two recently developed health status instruments for patients with arthritis: Dutch-AIMS2 and IRGL. *British Journal of Rheumatology*, 37, 157-164.
- Finestone, H.M., Stenn, P., Davies, F., Stalker, C., Fry, R., & Koumanis, J. (2000). Chronic pain and health care utilization in women with a history of childhood sexual abuse. *Child Abuse & Neglect*, 24(4), 547-556.
- Fors, E.A. & Gotestam, K.G. (2000). Patient education, guided imagery and pain related talk in fibromyalgia coping. *European Journal of Psychiatry*, 14(4), 233-240.
- Frnaks, H.M., Cranan, T.A., & Oliver, K. (2004). Social support in women with Fibromyalgia: Is quality more important than quantity? *Journal of Community Psychology*, 32(4), 425-438.
- Gaston-Johansson, F., Gustafsson, M., Felldon, R., & Sanne, H. (1990). A comparative study of feelings, attitudes and behaviors of patients with fibromyalgia and rheumatoid arthritis. *Social Science & Medicine*, 31(8), 941-947.
- Gauvin, L., & Rejeski, W.J. (1993). The Exercise-Induced Feeling inventory: Development and initial validation. *Journal of Sport and Exercise Psychology*, 15, 103-423.
- Gil, K.M., Abrams, M.R., Phillips, G., & Keefe, F.J. (1989). Sickle cell disease pain: Relation of coping strategies to adjustment. *Journal of consulting and Clinical Psychology*, 57, 725-731.
- Gillis, M.E. (2002). The effects of written emotional disclosure on adjustment in fibromyalgia symptoms. *Dissertation Abstracts International*, 63(3-B), 1562.
- Goldberg, R.T., Pachas, W.N., & Keiths, D. (1999). Relationship between traumatic events in childhood and chronic pain. *Disability and Rehabilitation*, 21(1), 23-30.
- Goldenberg, D.L., Kaplan, K.H., Nadeau, M.G., Brodeur, C., Smith, S., et al. (1994). A controlled study of a stress-reduction, cognitive-behavioral treatment program in fibromyalgia. *Journal of Musculoskeletal Pain*, 2(2), 53-66.
- Gowans, S.E., deHueck, A., Voss, S., et al. (2001). Effect of a randomized, controlled

- trial of exercise on mood and physical function in individuals with fibromyalgia. *Arthritis and Rheumatism*, 45, 519-529.
- Harris, C.A. & D'Eon J.L. (2008). Psychometric Properties of the Beck Depression Inventory-Second Edition (BDI-II) in individuals with chronic pain. *Pain*, 137(3), 609-622.
- Hassett, A.L. (2000). The role of depression and catastrophizing in the self-reported pain of women with fibromyalgia syndrome. *Dissertation Abstracts International*, 60(11-B), 5774.
- Hochlehnert, A., Richter, A., Bludau, H., Bieber, C., Blumenstiel, K., Mueller, K., et al. (2006). A computer-based information-tool for chronic pain patients: Computerized information to support the process of shared decision-making. *Patient Education and Counseling*, 61, 92-98.
- Huiskes, C.B., Kraaimaat, F.W., & Bijlsma, J.W. (1990). Development of a self report questionnaire to assess the impact of rheumatic disease on health and lifestyle. *Journal of Rehabilitation Sciences*, 3, 71-74.
- Imbierowicz, K. & Egle, U.T. (2003). Childhood adversities in patients with fibromyalgia and somatoform pain disorder. *European Journal of Pain*, 7, 113-119.
- Jensen, M.P., Turner, J.A., Romano, J.M., Strom, S.E. (1995). The chronic pain coping inventory: Development and preliminary validation. *Pain*, 60, 203-216.
- Kaplan, K.H., Goldenberg, D.L., & Galvin-Nadeau, M. (1993). The impact of a meditation-based stress reduction program on fibromyalgia. *General Hospital Psychiatry*, 15(5), 284-289.
- Keefe, F.J., Caldwell, D.S., Queen, K.T., et. al. (1987). Pain coping strategies in osteoarthritis patients. *Journal of Consulting and Clinical Psychology*, 55, 208-212.
- Keel, P.J., Bodoky, C., Gerhard, U., & Muller, W. (1998). Comparison of integrated group therapy and group relaxation training for Fibromyalgia. *The Clinical Journal of Pain*, 14(3), 232-238.
- Kennedy, M.M., & Newton, M. (1997). Effect of exercise intensity on mood in step aerobics. *Journal of Sports Medicine and Physical Fitness*, 37, 200-204.
- Kraaimaat, F.W. & Evers, A.W. (2003). Pain-coping strategies in chronic pain patients: Psychometric characteristics on the pain-coping inventory (PCI). *International Journal of Behavioral Medicine*. 10(4), 343-363.
- Krause, N., Goldenhar, L., Liang, J., Jay, G., & Maeda, D. (1993). Stress and exercise

- among the Japanese elderly. *Social Science & Medicine*, 1426-1441.
- Landers, D.M., & Petruzzello, S.J. (1994). *Physical activity, fitness, and anxiety*. In C. Bouchard, R.J. Shephard, & T. Stephens (Eds.), *Physical activity, fitness and health: International proceedings and consensus statement*, 868-882. Champaign, IL: Human Kinetics.
- Lemstra, M., & Olszynski, W.P. (2005). The effectiveness of multidisciplinary rehabilitation in the treatment of fibromyalgia: A randomized controlled trial. *The Clinical Journal of Pain*, 21(2), 166-174.
- Lutz, R.S., Lochbaum, M., & Turnbow, K. (2003). The role of autonomy in postexercise affect responding. *Journal of Sport Behavior*, 26, 137-154.
- Malt, E.A., Berle, J.I., Olafsson, S., Lund, A., & Ursin, H. (2000). Fibromyalgia is associated with panic disorder and functional dyspepsia with mood disorders: A study of women with random sample population controls. *Journal of Psychosomatic Research*, 49, 285-289.
- Mannerkorpi, K., Nyberg, B., Ahlmen, M., & Ekdahl, C. (2000). Pool exercise combined with an education program for patients with fibromyalgia syndrome: A prospective, randomized study. *Journal of Rheumatology*, 27, 2473-2481.
- Menefee, L.A., Cohen, M., Anderson, W.R., Doghramji, K., Frank, E.D., & Lee, H. (2000). Sleep disturbance and Nonmalignant chronic pain: A comprehensive review of the literature. *Pain Medicine*, 1(2), 156-172.
- Mengshoel, A.M. (2001). Evaluation of clinical physiotherapy on Fibromyalgia by applying methods used in research. *Journal of Musculoskeletal Pain*, 9(1), 83-93.
- Morin, C.M., Culbert, J.P., & Schwartz, S.M. (1994). Non-pharmacological interventions for insomnia: A meta-analysis of treatment efficacy. *American Journal of Psychiatry*, 151(1), 1172-1180.
- Nijs, J. & Van Parijs, M. (2004). Long-term effectiveness of pool exercise therapy and education in patients with fibromyalgia. *Journal of Chronic Fatigue Syndrome*, 12(3), 73-79.
- Oka, R.K., King, A.C., & Young, D.R. (1995). Social support as predictors of exercise adherence in women and men ages 50 to 65. *Women's Health*, 1, 161-175.
- Oliver, K. & Cronan, T. (2005). Correlates of physical activity among women with fibromyalgia syndrome. *The Society of Behavioral Medicine*, 29(1), 44-53.
- Oliver, K. & Cronan, T. (2002). Predictors of exercise behaviors among fibromyalgia

- patients. *Preventive Medicine*, 35, 383-389.
- Oliver, K., Cronan, T.A., Walen, H.R., & Tomita, M. (2001). The effects of social support and education on health care costs for Fibromyalgia patients. *The Journal of Rheumatology*, 28(12), 2711-2719.
- Petruzzello, S.J., Jones, A.C., & Tate, A.K. (1997). Affective responses to acute exercise: A test of opponent process theory. *Journal of Sports Medicine and Physical fitness*, 37, 205-212.
- Preece, J.C. & Sandberg, J.G. (2005). Family resilience and the management of fibromyalgia: Implications for family therapists. *Contemporary Family Therapy: An International Journal*, 27(4), 559-576.
- Prevalence of leisure-time physical activity among persons with arthritis and other rheumatic conditions. United States, 1990-1991. *Morbidity and Mortality Weekly Report*, 46, 389-393.
- Sim, J., Adams, N. (2003). Therapeutic approaches to fibromyalgia syndrome in the United Kingdom: A survey of occupational therapists and physical therapists. *European Journal of Pain*, 7, 173-180.
- Singh, B.B., Berman, B.M., Hadhaxy, V.A., & Creamer, P. (1998). A pilot study of cognitive-behavioral therapy in fibromyalgia. *Alternative Therapy Health Medicine*, 4, 67-70.
- Schwartz, G.E. (1982). Testing the biopsychosocial model: The ultimate challenge facing behavioral medicine? *Journal of Consulting and Clinical Psychology*, 50(6), 1040-1053.
- Spinhoven, P., Ter Kuile, M.N., Linssen, A.C., Gazendam, B. (1989). Pain coping strategies in a Dutch population of chronic low back pain patients. *Pain*, 37, 77-83.
- Spink, K.S., & Carron, A.V. (1992). Group cohesion and adherence in exercise classes. *Journal of Sport and Exercise Psychology*, 14, 78-96.
- Rudnicki, S.R. (2001). A model of psychosocial factors and pain in fibromyalgia: An integrative approach. *Dissertation Abstracts International*, 60(2-B), 1098.
- Thayer, R.E. (1987). Energy, tiredness and tension effects of a sugar snack vs. moderate exercise. *Journal of Personality and Social Psychology*, 52, 119-125.
- Thorne, S.E., Harris, S.R., Mahoney, K., Con, A., & McGuiness, L. (2004). The context of health care communication in chronic illness. *Patient Education and Counseling*, 54, 299-306.

- Thieme, K., Gromnica-Ihle, E., & Flor, H. (2003). Operant behavioral treatment of fibromyalgia: A controlled study. *Arthritis & Rheumatism*, 49(3), 314-320.
- Thieme, K., Turk, D., & Flor, H. (2004). Comorbid depression and anxiety in fibromyalgia syndrome: Relationship to somatic and psychological variables. *Psychosomatic Medicine*, 66(6), 837-844.
- Tot, S., Sahin, G., Oral, T., & Verimli, A. (2004). Primary Fibromyalgia and depression: The role of relatives in fibromyalgia. *Pain Clinic*, 16(3), 261-267.
- Unruh, A.M., Dalhousie, U. (1996) Gender variations in clinical pain experience. *Pain* 65(2-3), 123-167.
- Warren, R.N. & Jensen, M.P. (2004). Relationship between changes in coping and treatment outcome in patients with fibromyalgia syndrome. *Pain*, 109, 233-241.
- Weissbecker, I., Floyd, A., Dedert, E., Salmon, P., & Sephton, S. (2006). Childhood trauma and diurnal cortisol disruption in fibromyalgia syndrome. *Psychoneuroendocrinology*, 31, 312-324.
- Wolfe, F., Ross, K., Anderson, J., et al. (1995). The prevalence and characteristics of Fibromyalgia in the general population. *Arthritis & Rheumatism*, 38, 19-28.
- Wolfe, F., Ross, K., Anderson, J., & Russell I. (1995). Aspects of Fibromyalgia in the general population: Sex, pain threshold, and Fibromyalgia symptoms. *Journal of Rheumatology*, 22, 151-156.
- Wolfe et al. (1990) *Arthritis and Rheumatism*, 33(2)
- Wolfe, F., Anderson, J., Harkness, D., Bennett, R., Caro, X., Goldenberg, D., et al. (1997). A prospective, longitudinal, multicenter study of service utilization and costs in fibromyalgia. *Arthritis and Rheumatism*, 40(9), 211-224.
- Wolfe, F., Smythe, H.A., Yunus, M.B. (1990). The American college of Rheumatology 1990 criteria for the classification of fibromyalgia. *Arthritis Rheum*, 33, 160-172.
- Yalom, I.D. (2005). *The theory and practice of group psychotherapy* (5th ed.). New York: Basic Books.
- Yunus, M.B., Masi, A.T., & Aldag, J.C. (1989). A controlled study of primary fibromyalgia syndromes: Clinical features and association with other functional syndromes. *Journal of Rheumatology*, 16(suppl 19), 62-71.
- Zaharoff, A.D. (2005). The relationship between fibromyalgia and emotional expressivity

and its influence on locus of control, ways of coping, and quality of life.
Dissertation Abstract International, 65(8-B), 4311.

Zautra, A.J., Fasman, R., Reich, J.W., Harakas, P., Johnson, L.M., Olmsted, M.E., et al.
(2005). Fibromyalgia: Evidence for deficits in positive affect regulation.
Psychosomatic Medicine, 67(1), 147-155.